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(54) Paper or like laminate

(57) A paper or like laminate (1) comprises two sheets (3 and 5), at least one (3) of which comprises paper or the like, and is at least partially translucent, embossed and attached to the other sheet (5) at the embossings, colouring matter (11) being provided between the sheets (3, 5) such that the colouring is visible at those points of the first sheet (3) where it is in engagement with the second sheet (5). Indeed a design such as shown in Figure 4 may be achieved with the colouring.

FIG.1.

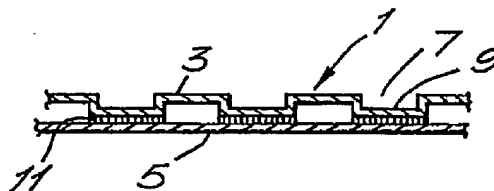
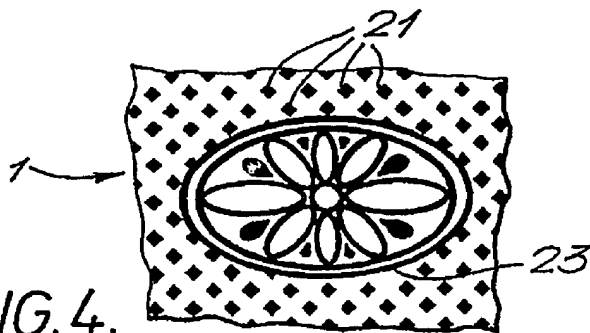


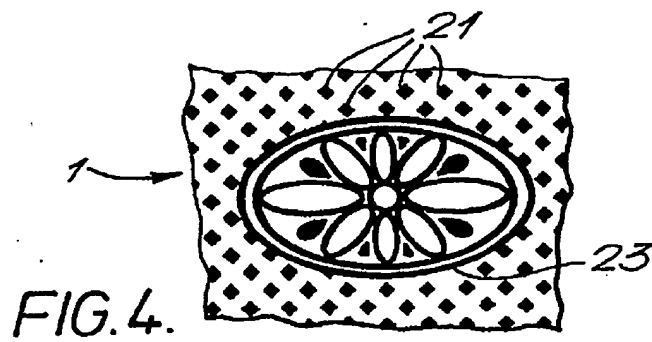
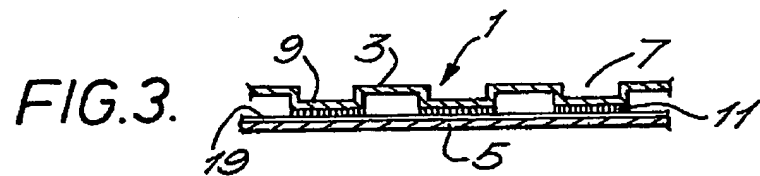
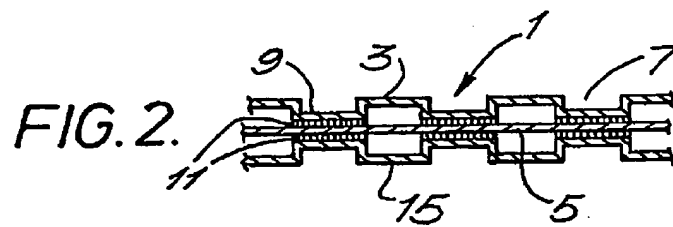
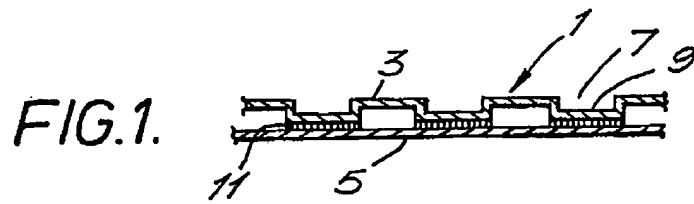
FIG.4.



At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

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PAPER OR LIKE LAMINATE.

This invention relates to a paper or like laminate. The term paper or like laminate is intended to include not only products including paper but also products including similar materials, such as thin plastics sheeting. Such similar materials will be referred to hereafter by the general term "paper".

10 Particularly in the field of domestic throw away products such as kitchen towels, wipes, toilet rolls etc., there is recently a trend to make these products decorative by various means ranging from producing them in different colours to printing them with coloured
15 patterns or scenes.

Many of these type of product are produced by laminating two sheets of paper together and a certain amount of added flexibility and/or moisture retention is imparted
20 to them by means of embossing. Printing on the exterior of such materials can prove to be difficult unless the printing is carried out prior to the laminating and/or embossing operation. Furthermore, where such material may come into contact with food, considerable care has
25 to be taken with the inks used for this purpose, firstly to ensure that they are not toxic and secondly to ensure that the colouring does not run into the food with which it is in contact. This latter can be such a problem, particularly where the material is used to cover food in
30 a microwave, that non coloured or printed material is usually recommended for this type of use.

The invention seeks to provide a paper or like laminate in which some or all of the above problems are reduced
35 or substantially obviated.

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According to the invention, there is provided a paper or like laminate comprising two sheets, at least one of which comprises paper or the like, at least one of the sheet of paper or the like being at least partially translucent, embossed and attached to the other sheet at the embossings, colouring matter
5 being provided between the sheets such that the colouring is visible at those points of the first sheet where it is in engagement with the second sheet.

Preferably both of the sheets are of paper or like material.

If desired, both of the sheets may be embossed, the embossing on the sheets being so registered that embossed areas on one sheet are in register with the
10 embossed areas of the other sheet. To this end, parts of one sheet projecting towards the other sheet are in register with oppositely projecting parts of the other sheet. Alternatively, projections on one sheet may be in register with troughs on the other sheet and vice versa.

In one particularly desirable form of the invention, the laminate is formed of
15 three paper sheets, the outer ones of which are embossed and the central sheet being plain, the outer sheets being adhered to the central sheet at their embossed areas by a suitable adhesive. To this end, it is possible to have colouring matter such that a different colour is imparted to the embossed parts of the two outer sheets of the laminate.

20 In one embodiment of the invention, a coloured adhesive is used to adhere the two sheets of the laminate together at the points where the two sheets touch, application of the adhesive being limited to those

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points.

In a further embodiment of the invention one of the sheets is coloured and the translucency of the other sheet is such that the colour of the said one sheet only shows significantly through the said other sheet at points of contact.

The invention will now be described in greater detail, by way of example, with reference to the drawings, in which:-

Figure 1 is an enlarged sectional view of a basic form of paper laminate in accordance with the invention, comprising two sheets of paper;

Figure 2 is an enlarged sectional view of a further form of paper laminate in accordance with the invention comprising three sheets of paper;

Figure 3 is a view similar to figure 1 but showing an alternative form of colouring, and

Figure 4 shows a small piece of a paper laminate in plan view indicating one example of a decorative embossing pattern.

Referring firstly to figure 1, there is shown a paper laminate 1 comprising two sheets 3 and 5 of paper, the sheet 3 being embossed with indentations 7 which extend in the direction of the second sheet 5. The bottom of the indentations, shown at 9, are adhered to the second sheet by means of a coloured adhesive 11 which has been applied only to the indentation bottoms 9 as shown.

The sheet of paper 3 is suitably of a translucent nature

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so that the colour of the adhesive can be seen from the outside of the laminate, as viewed in the direction 13, thus providing a two colour effect. The sort of effects which can be produced with the various arrangements of the invention will be more particularly described in relation to figure 4 hereafter.

It will be observed that, in the embodiment shown in figure 1, the second paper sheet is shown as plain, i.e. without embossing. However, this is not essential, and in many circumstances may not be desirable. The second sheet 5 could be embossed similarly to the first sheet 3 but used in mirror image fashion so that the indentation bottoms of the second sheet 5 are in register with the indentation bottoms 9 of the first sheet 3. In an alternative to this registration arrangement, a different form of construction could use embossed sheets with slightly different but complimentary embossings so that the indentation bottoms of one sheet could sit within the indentation bottoms of the other sheet.

While the coloured adhesive may be a standard adhesive, such an adhesive may be made up using a transparent glue, such as a dextrin based glue, mixed with coloured inks or dyes. By this latter method, the colour of the adhesive can be particularly determined such that the desired colour is visible through the translucent sheet 3.

A second embodiment of the invention, as shown in figure 2, three paper sheets 3, 5 and 15 are used in which the sheet 5, which in this case would be plain, is sandwiched between the outer sheets 3 and 15, both of which are embossed. Since the outer sheets 3 and 15 are adhered to the centre sheet 5, rather than to each other, it is possible for the two outer sheets 3 and 15

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to have a different embossed pattern thereon and/or a different coloured adhesive could be used so that the opposite sides of the laminate exhibit different patterns and/or different colours.

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Figure 3 shows a laminate similar to figure 1 in which an embossed sheet 3 is adhesively secured at its indentations 7 to a second sheet 5. However, this second sheet is, in this case coloured, as indicated by the layer 19 and the adhesive 11 used in this case will be transparent. Instead of the layer 19, which indicates an exterior colour, the paper itself may well be coloured. If the colour is correctly chosen together with a suitable translucency of the sheet 3, a pattern will appear, either as pattern of the colour of the sheet 5 at the indentations 7 with a surrounding colour of the sheet 3 or with a surrounding area of a lighter colour, being the remainder of the sheet 5 as seen through the separated parts of the sheet 3.

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The embodiment of figure 3 can also be applied to the three sheet laminate of figure 2, the colouring of the sheet 5 replacing the colouring of the adhesive 11. The sheet 5 could obviously be coloured differently on opposite faces.

Figure 4 shows an example of the sort of effects which can be achieved using the invention. Thus, the usual square indentations 21 as are generally provided for construction of the laminate will be picked out in the desired colour. In addition to this, standard form of embossing, a pattern, such as that shown at 23 may be additionally be embossed, suitably at the same time as the indentations 21, and this will also be picked out in the same colour. If the outer sheet 3 is white, a particularly pleasing effect can be achieved.

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It will be appreciated that various additions to or modifications of the above described embodiments may be carried out without departing from the scope of the invention. For example, while the invention has been particularly described in relation to paper products, it may equally well be applied to other products with similar effect. Thus the sheet 5 could be of any suitable material and could be, in fact, rigid. It might indeed be not a sheet as such but the outer surface of an article on which it is desired to produce a decoration.

If the adhesive is "printed" on to the outer sheet, 3 or 15, a pattern could be built up using different coloured adhesives so that a multi coloured effect could be used. Alternatively, the sheet 5 could be of multi coloured format or could be printed with defined patterns which could be maintained in register with the indentations of the appropriate outer sheet.

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From the above described embodiments, it will be seen that a laminate can be provided in which a decorative effect which can be achieved without the need to colour the laminate externally, thus increasing the safety of the product. Any problems of printing onto previously embossed sheets is removed.

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CLAIMS

1. A paper or like laminate comprising two sheets, at least one of which comprises paper or the like, the at least one of the sheets being at least partially translucent, embossed and attached to the other sheet at the embossings, colouring matter being provided between the sheets such that the colouring is visible at those points of the first sheet where it is in engagement with the second sheet.
2. A laminate as claimed in claim 1, wherein both of the sheets are of paper or like material.
3. A laminate as claimed in claim 1 or 2, wherein both of the sheets are embossed, the embossings on the sheets being so registered that the embossed areas on one sheet are in register with the embossed areas of the other sheet.
4. A laminate as claimed in claim 3, wherein the parts of one sheet projecting towards the other sheet are in register with oppositely projecting parts of the other sheet.
5. A laminate as claimed in claim 3, wherein the projections on one sheet are in register with troughs on the other sheet or vice versa.
6. A laminate as claimed in claim 1 or 2, wherein the laminate is formed of three paper sheets, the outer ones of which are embossed and the central sheet is plain, the outer sheets being adhered to the central sheet by a suitable adhesive.

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7. A laminate as claimed in claim 6, wherein the colouring matter is so arranged that a different colour is imparted to the embossed parts of the two outer sheets of the laminate.
8. A laminate as claimed in anyone of the preceding claims wherein a coloured adhesive is used to adhere the or two sheets of the laminate where the two sheets touch, the application of the adhesive being limited to those points.
9. A laminate as claimed in any one of claims 1 to 7, wherein one or the central sheet is coloured and the transparency of the other sheet(s) is such that the colour of the said one sheet shows significantly through the said other sheet(s) at the points of contact.
10. A paper or like laminate substantially as described herein with reference to the drawings.



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Amendments to the claims
have been filed as follows

1. A paper or like laminate comprising two sheets of paper or the like, the sheets being at least partially translucent, embossed and attached to each other at the embossings, colouring matter being provided between the sheets such that the colouring is visible at those points of the first sheet where it is closely adjacent to the second sheet.
2. A laminate as claimed in claim 1, wherein the embossings on the sheets are so registered that the embossed areas on one sheet are in register with the embossed areas of the other sheet.
3. A laminate as claimed in claim 2, wherein the parts of one sheet projecting towards the other sheet are in register with oppositely projecting parts of the other sheet.
4. A laminate as claimed in claim 1, wherein the laminate is formed of three paper sheets, the outer ones of which are embossed and the central sheet is plain, the outer sheets being adhered to the central sheet by a suitable adhesive.
5. A laminate as claimed in claim 4, wherein the colouring matter is so arranged that a different colour is imparted to the embossed parts of the two outer sheets of the laminate.
6. A laminate as claimed in any one of the preceding claims wherein a coloured adhesive is used to adhere the or two sheets of the laminate where the two sheets are adjacent, the application of the adhesive being limited to those points.
7. A laminate as claimed in any one of claims 1 to 6, wherein one or the central sheet is coloured and the transparency of the other sheet(s) is such that the colour of the said one sheet shows significantly through the said other sheet(s) at the points of contact.
8. A paper or the like laminate substantially as described herein with reference to the drawings.

Contents Act 1977**Examiner's report to the Comptroller under
Section 17 (The Search Report)**

Application number

9201910.8

Relevant Technical fields

(i) UK CI (Edition K) B5N, B6G

(ii) Int CI (Edition 5) B32B B44C

Databases (see over)

(i) UK Patent Office

(ii) **ONLINE DATABASES: WPI, CLAIMS**

Search Examiner

R J MIRAMS

Date of Search

9 MARCH 1992

Documents considered relevant following a search in respect of claims

1 TO 10

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X	GB 1128722 (MAGID) Whole document	1 to 3, 5 to 9

SF2(p)

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Category	Identity of document and relevant passages	Relevant to claim(s)

Categories of documents

X: Document indicating lack of novelty or of inventive step.

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P: Document published on or after the declared priority date but before the filing date of the present application.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

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